

REMARKS

Claim 6 stands rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement. Although Applicant believes that the current Specification supports the use of the term “vortex creating means,” Applicant has cancelled Claim 6, without prejudice, in order to expedite prosecution. Accordingly, this rejection has been rendered moot.

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, applicant has amended Claim 1 as suggest by the Examiner. Accordingly, withdrawal of the rejection of independent Claim 1 and associated dependent Claims 3 and 4 is respectfully requested. Further, since the amendment to Claim 1 was suggested by the Examiner, Applicant respectfully requests entry of this after-final amendment, because such claim amendment is not believed to raise any new issues requiring further search and/or consideration.

Claim 6 stands rejected under 35 U.S.C. §102(b) as being anticipated by JP2001-287509. Claim 6 also stands rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 6,415,835 to Heinen in view of either United States Patent No. 5,211,779 to Tomioka et al. or United States Patent No. 4,299,264 to Williams. As mentioned above, Applicant has cancelled Claim 6, without prejudice, thereby rendering these rejections moot.

Claims 1, 3 and 4 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,415,835 to Heinen in view of United States

Patent No. 2,268,344 to Shesterkin and further in view of United States Patent No. 5,211,779 to Tomioka et al. or United States Patent No. 4,299,264 to Williams, and optionally further in view of JP 2001-287509. As mentioned above, Applicant has cancelled Claim 6, without prejudice, thereby rendering this rejection moot with respect to this claim. However, with respect to Claims 1, 3 and 4, Applicant respectfully traverses this rejection.

Applicant respectfully submits that one of ordinary skill in the art would not have combined the cited references in the manner suggested by the Examiner, and thus would not have arrived at the invention defined in independent Claim 1 and associated dependent Claims 3 and 4. More specifically, Applicant respectfully asserts that it improper for the Examiner to modify the Heinen reference in a manner that increases the creation of vortexes because this reference is directed to decreasing vortexes. *See e.g.*, Heinen, col. 3 (lines 32-34 and 45-46) (describing that invention reduces eddies, and defines an eddy as a vortexlike motion of a fluid running contrary to the main current); col. 4 (lines 34-36 and 52-54)(describes peaks and valleys as “eddy breakup devices” and states that “The peaks 22 and valleys 24 of this invention disrupt the eddies or vortices that are present along the respective groove surface.”). Thus, Applicant respectfully submits that the Heinen reference teaches away from any modifications that would increase vortexes. *See e.g.*, In re Gurley, 27 F.3d. 551, 553 (Fed. Cir. 1994) (“A reference may be said to teach away when a person of ordinary skill in the art, upon reading the reference, would be discouraged from following the path set out in the reference, or would be lead in a direction divergent from the path that was taken by Applicant.”). In the instant application, increasing vortexes, as defined in Claim 1, is

divergent from the teaching of the Heinen reference, which is to decrease vortexes. Accordingly, under the definition of a teaching away provided by the Federal Circuit, Applicant respectfully submits that Heinen reference teaches away from any modification that would increase the vortexes.

Thus, for at least this reason, Applicant respectfully submits that one of ordinary skill in the art would not modify the tire of the Heinen reference so that it includes circumferential grooves with line portions therein configured such that “water can flow in the circumferential grooves along the line portions to form a vortex flow,” as defined in independent Claim 1.

Further, Applicant also respectfully submits that due to the teaching away discussed above, one of ordinary skill in the art would not have modified the tire of the Heinen reference to include line portions composed of a plurality of ridges or recesses that are inclined from 10 to 35 degrees with respect to the tire circumferential direction, as defined in independent Claim 1. As correctly pointed out by the Examiner, the Heinen reference teaches inclining the ridges/recesses between 45 and 90 degrees. However, as mentioned above, one of the principles of operation of the tire of Heinen is decreasing vortex creation. Applicant respectfully submits that one of ordinary skill in the art would not have chosen the incline angle to be between 10 and 35 degrees in a configuration that would increase vortex creation, because doing so would change the principle of operation of the tire of the Heinen reference (namely from operating to eliminate vortexes to operating to create/increase vortexes, which is the exact opposite). *See e.g., In re Ratti*, 270 F.2d 810

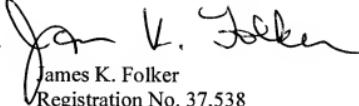
(CCPA 1959); MPEP §2143.01(VI) (“The Proposed Modification Cannot Change The Principle of Operation of A reference”). Thus, because Applicant respectfully submits that the proposed modification of the tire of Heinen would change the principle of operation of the Heinen reference, Applicant respectfully submits that one of ordinary skill in the art would not have made the modification proposed by the Examiner. Accordingly, for this reason also, Applicant respectfully requests the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 3 and 4.

In response to Applicant’s arguments of Amendment C that preventing the formation of eddies is contrary to encouraging vortex formation, the Examiner asserted in the Office Action that breaking up of eddies and the formation of vortexes are consistent with each other (Office Action, page 10, lines 15-21). In response, Applicant respectfully submits that the Heinen reference teaches that eddies/vortexes both create turbulent flow (col. 3, lines 45-46 and col. 4, lines 7-10), and that such turbulent flow should be reduced/eliminated (col. 4, lines 46-60). Thus, although JP 2001-287509 teaches the benefits of breaking up random eddies and creating a longitudinal vortex, such a teaching goes against the principle of Heinen, which is minimize turbulence by eliminating all vortexes/eddies. Accordingly, due to the teaching away found in Heinen, Applicant respectfully submits that one of ordinary skill in the art would not have modified Heinen in the manner suggested by the Examiner. Thus, for this reason also, Applicant respectfully requests the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 3 and 4.

For all of the above reasons, Applicant requests reconsideration and allowance of the claimed invention. The Examiner should contact Applicant's undersigned attorney if a telephone conference would expedite prosecution.

Respectfully submitted,

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